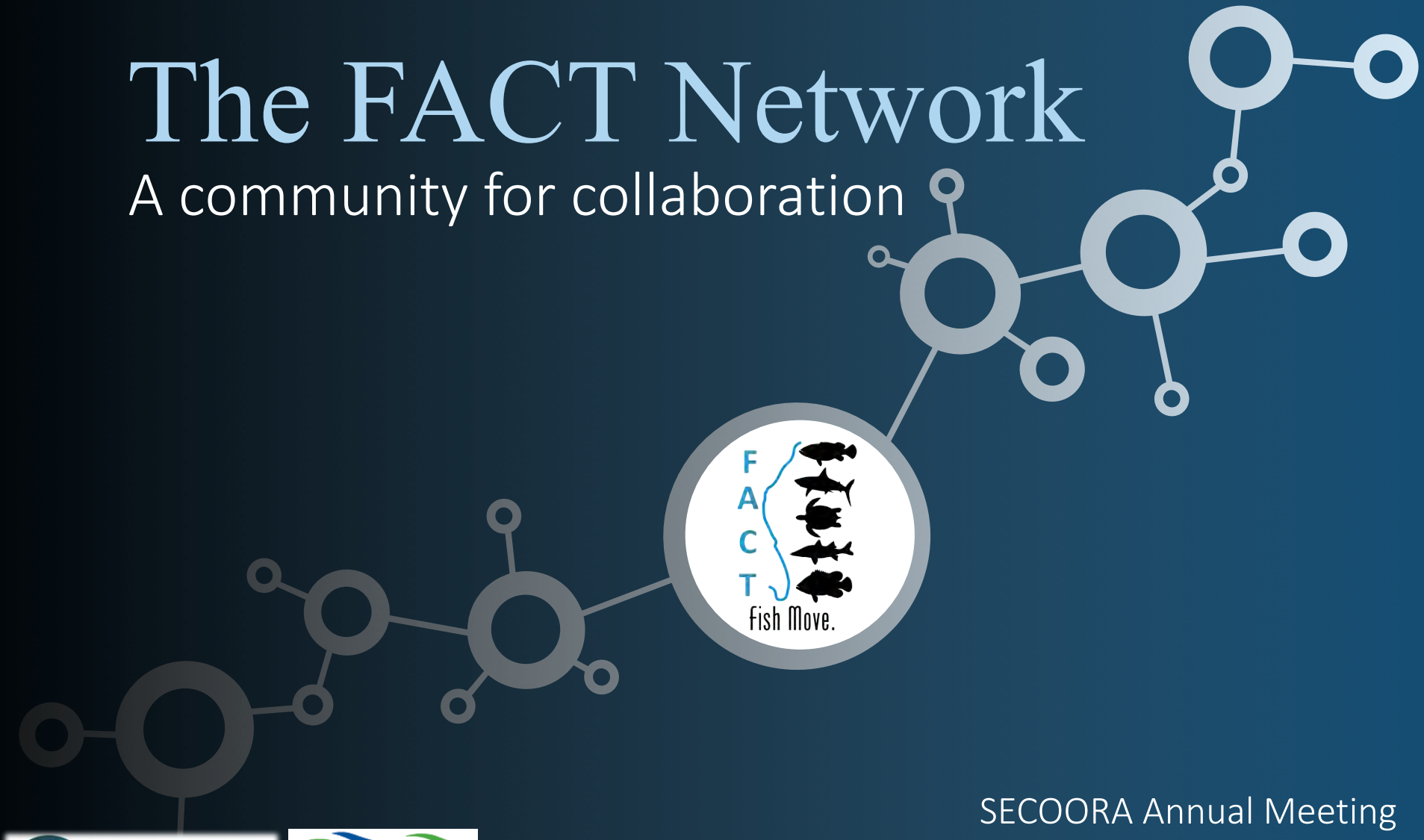
The FACT Network

A community for collaboration



SECOORA Annual Meeting

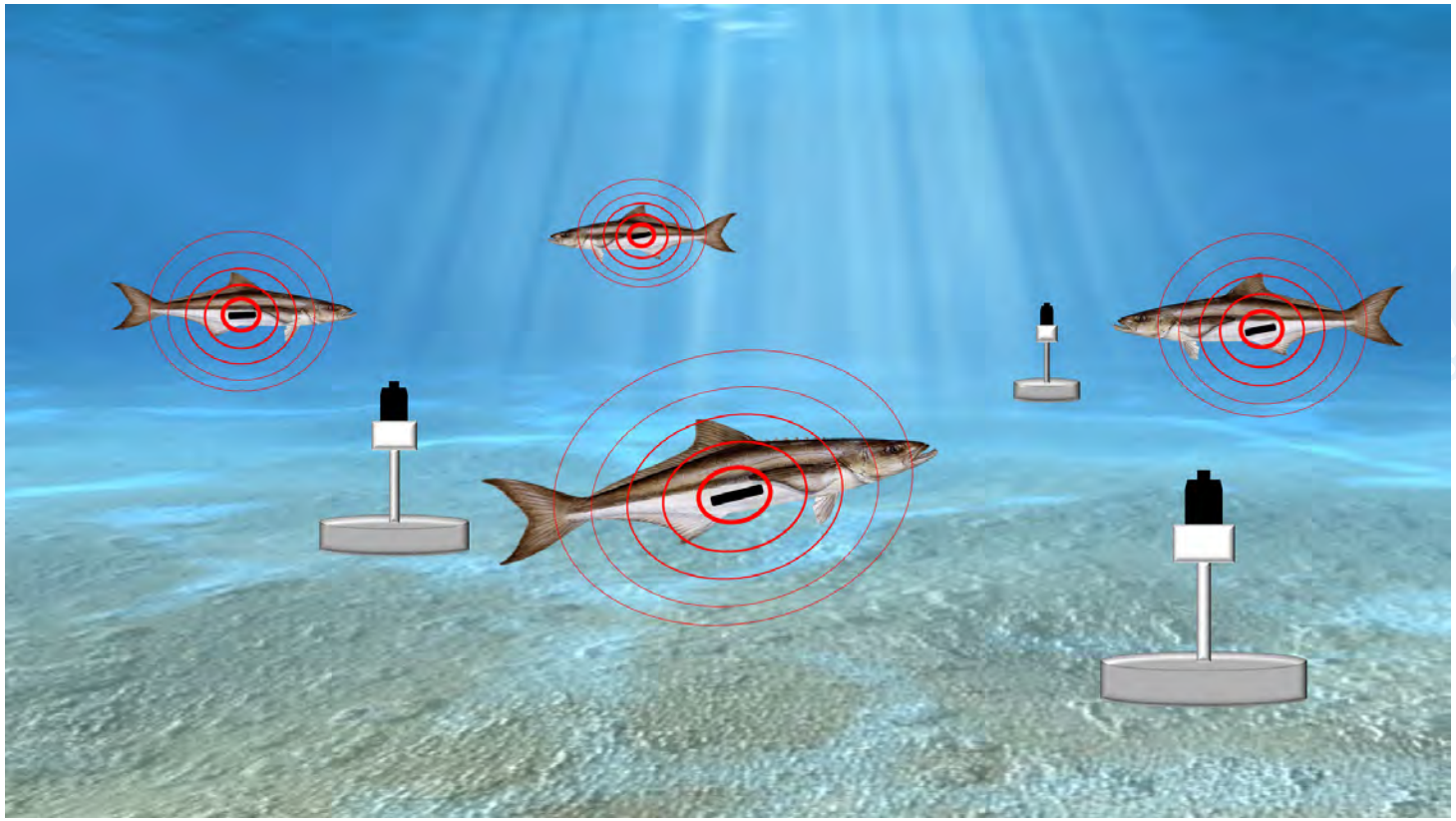
16-18 May, 2017

SECOORA
Southeast Coastal Ocean Observing Regional Association

OCEAN TRACKING NETWORK

Components of Acoustic Telemetry

Tags, receivers, detection data



✓ Detection data are logged (not real time)

✓ Compatible technology facilities collaboration amongst researchers

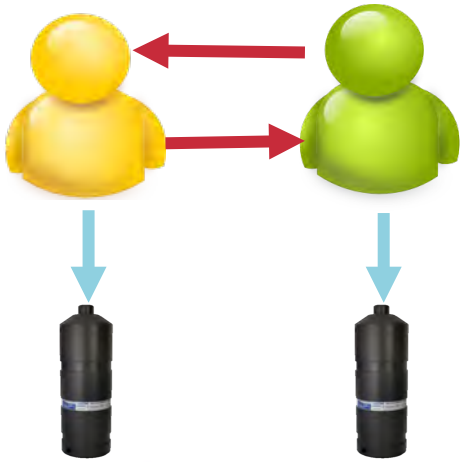
FACT Fish Move.

* Note: Additional receiver types and companies that produce acoustic telemetry technology not discussed in time allotted.

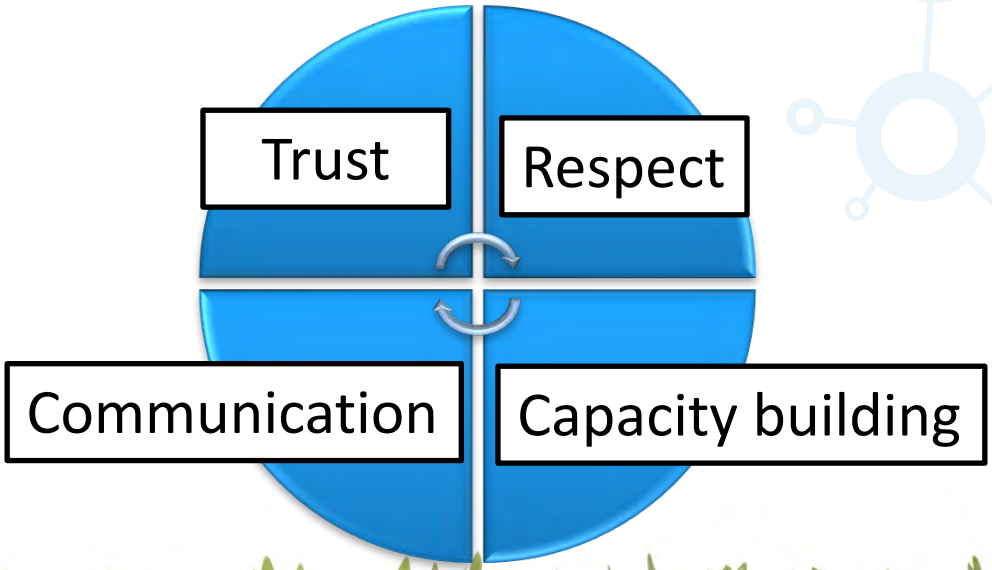
The FACT Network is…

A grass roots collaboration of scientists using acoustic telemetry to resolve the life history of fishes.

Data Sharing



Community



Why doesn't everyone share and why aren't all data available publicly?

Data sharing

- Fear of not fulfilling the obligations of a grant before someone else publishes on the data (inside-network colleagues publish on the data).
  - It takes TIME to publish.
  - Extra effort for certain species.
- Time and effort
- Unaware
- A few bad apples…

Public dissemination of data

- Fear of not fulfilling the obligations of a grant before someone else publishes on the data (outside-network olleagues publish on the data).
- Unintended consequences
  - Removal or harrasment of receivers.
  - Harvest of tagged animals.

FACT Fish Move.

Why doesn't everyone share and why aren't all data available publicly?

HOWEVER,

The FACT Network has been relatively free of issues.

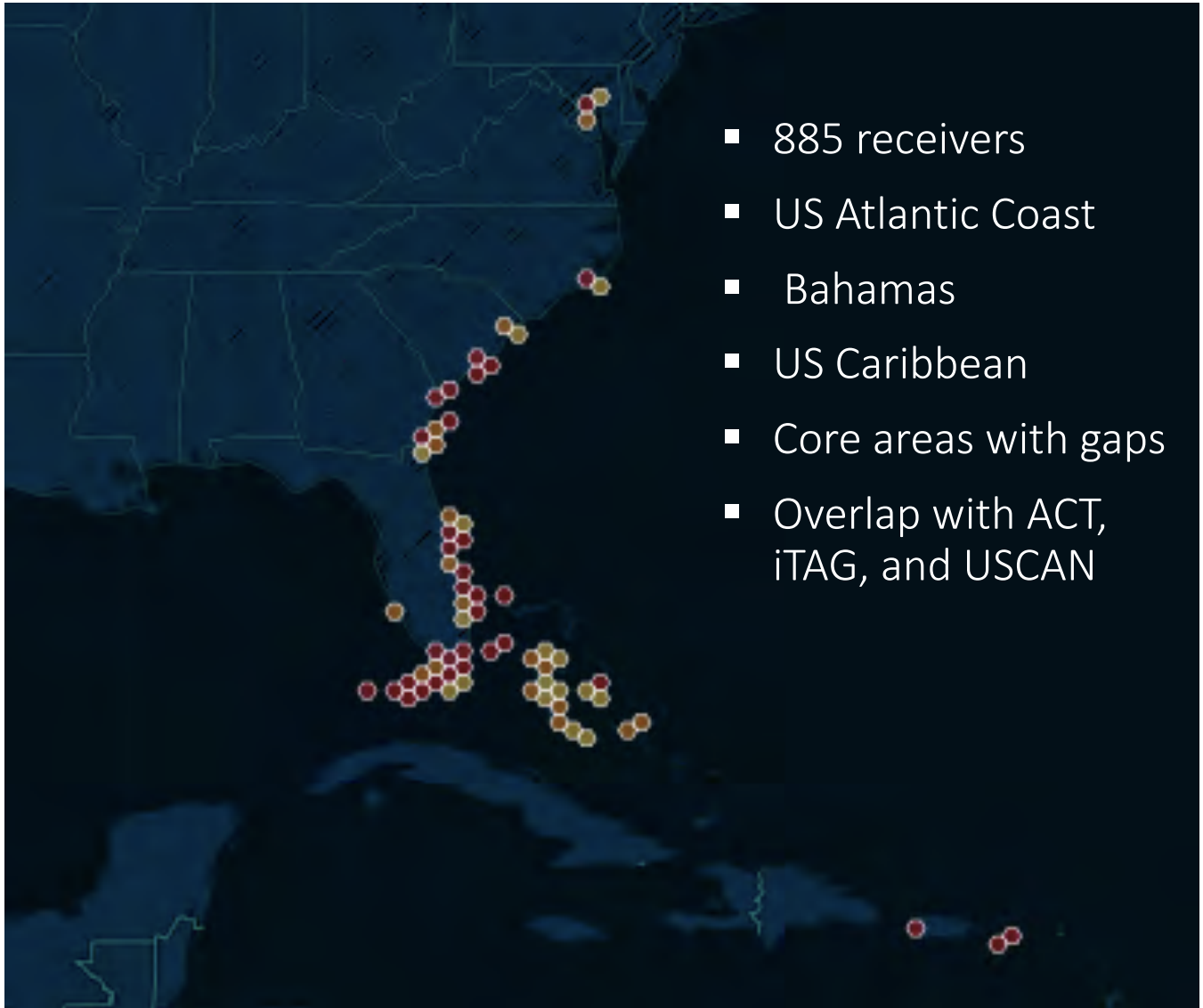
FACT members are willing and excited to share with FACT members.

FACT members understand the benefit of holding data in legacy. (And many federal grants require data be turned public at some point).

FACT Fish Move.

FACT Network- Active Receivers

Receiver arrays are maintained by individual groups

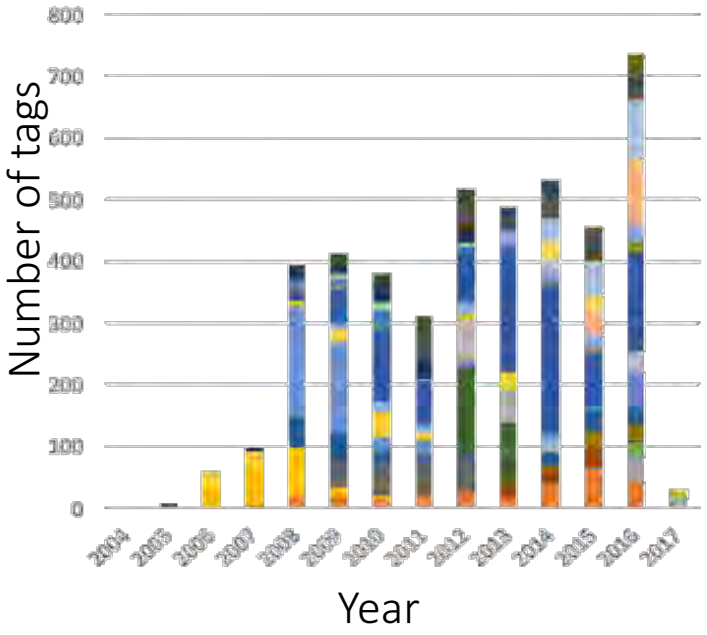


- 885 receivers
- US Atlantic Coast
- Bahamas
- US Caribbean
- Core areas with gaps
- Overlap with ACT, iTAG, and USCAN

FACT Fish Move.

FACT Network – Number and species of tagged animals

Number of Tags (Over Time)



Number of Species (Current)

Sharks	18
ASFMC Managed	8
Coastal Migratory Pelagics	3
Sportfish	5
Rays	8
Grouper	9
Sea Turtles	4
Sturgeon	2
Other	3
Snapper	4
Reef fishes (non-snapper/grouper)	3
Total	**67**

FACT Fish Move.

FACT Network Cooperative Agreement

Ethics

- Concurrent deployment of tags and receivers

  Members must deploy tags AND receivers or work with groups operating in the area

- Publications

  Detection data belong to tag owners

  If the publishing author(s) can not state certain conclusions but for the information provided by other array managers, the publishing authors must contact and secure an agreement with array managers.

  Array managers may state basic information on all tags detected within their array for in-house and grant reports.

- Privacy

  Do not share the communal tag and receiver lists

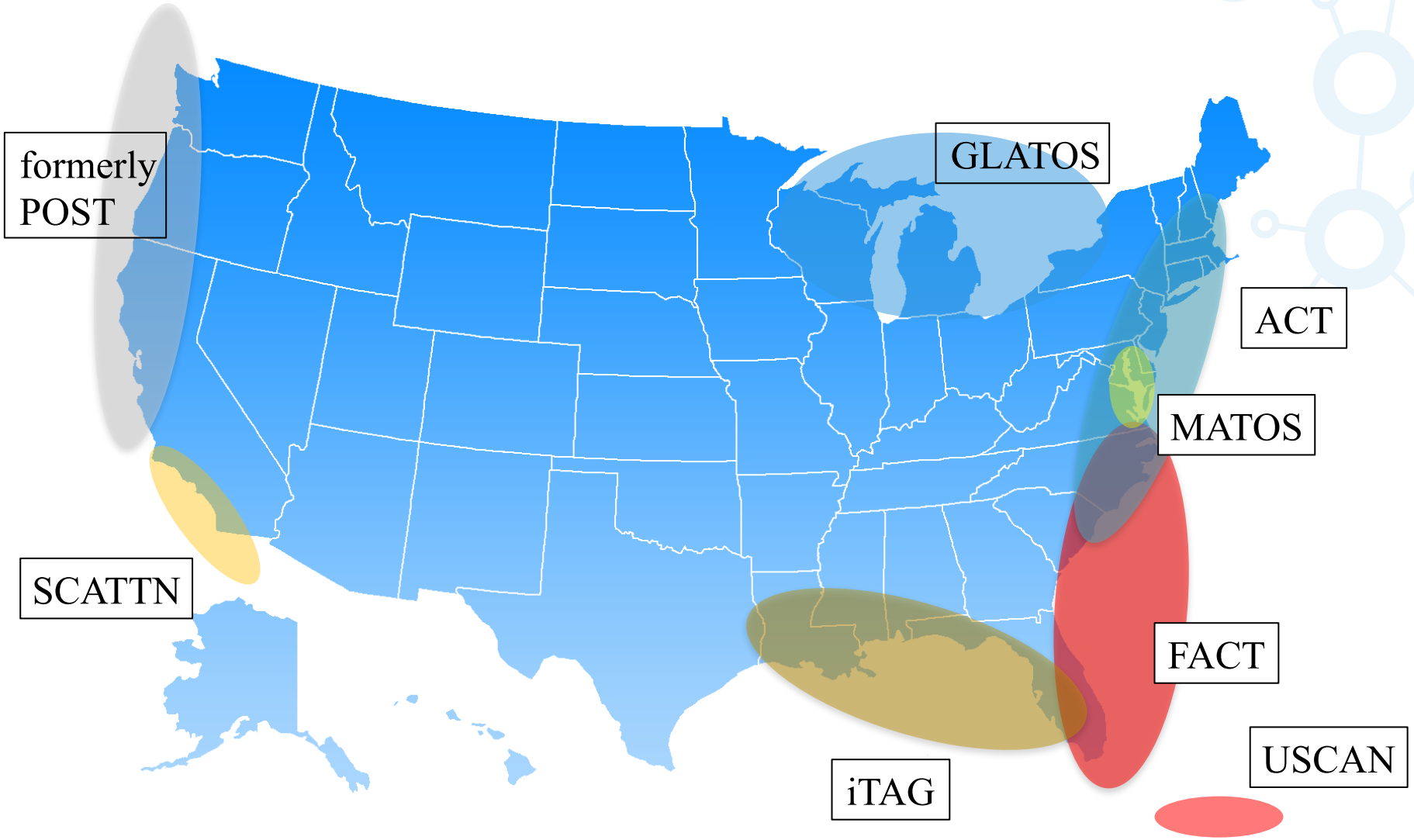
- Data sharing

  May share .vrl or .csv detection files

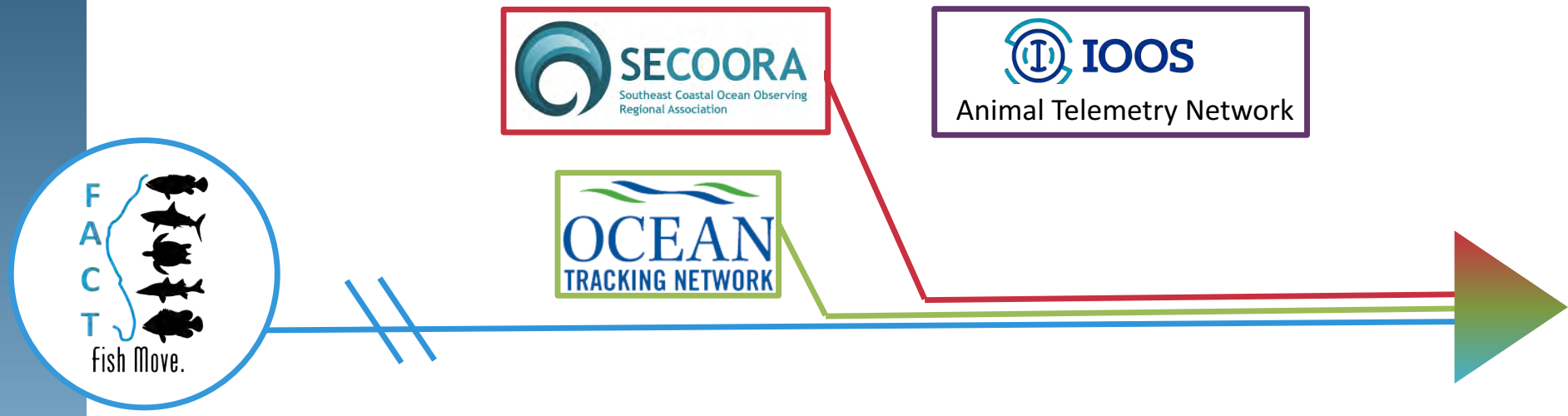
  Disseminate detection data at least once a year

FACT Fish Move.

Models of collaborative acoustic telemetry arrays in the U.S.
FACT, FCT, GLATOS, MATOS and iTAG



A History of Collaboration



2007

FACT membership

6 organizations
Aprox. 100 receivers

2014

FACT membership

23 organizations
488 receivers

Milestones

- Joint ACT/ FACT meeting
- SECOORA presents at FACT meeting
- First FACT data sharing agreement

2017

FACT membership

> 34 organizations
>850 receivers

Milestones

- SECOORA hosts OTN regional node for FACT
- SECOORA links FACT website to SECOORA website

The Future of the FACT Network

Goals, challenges, needs, and solutions

Standardize Data Collection

Ease the burden of data sharing

Compatibility with other networks

Internet Presence

FACT Fish Move.

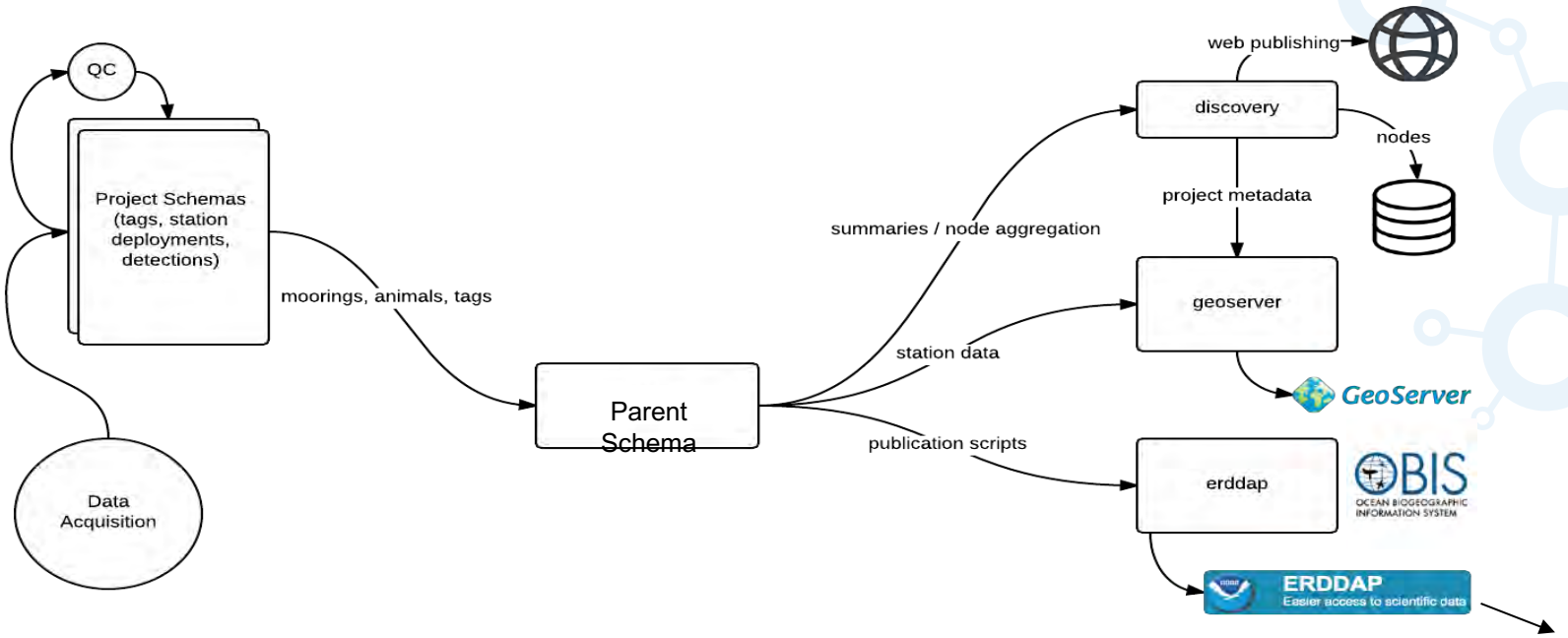
OTN Mission

(or, what are the Canadians doing here?)

To create a **global partnership** to construct and sustain a scientific platform and the associated trained personnel to **collect**, **store**, **share**, **analyze, and use** aquatic tracking and environmental **data** to **support sustainable management** of valued aquatic species.

Facilitate internal sharing of cross-project detections while respecting the data rights of researchers. Provide a **pathway** to public data.

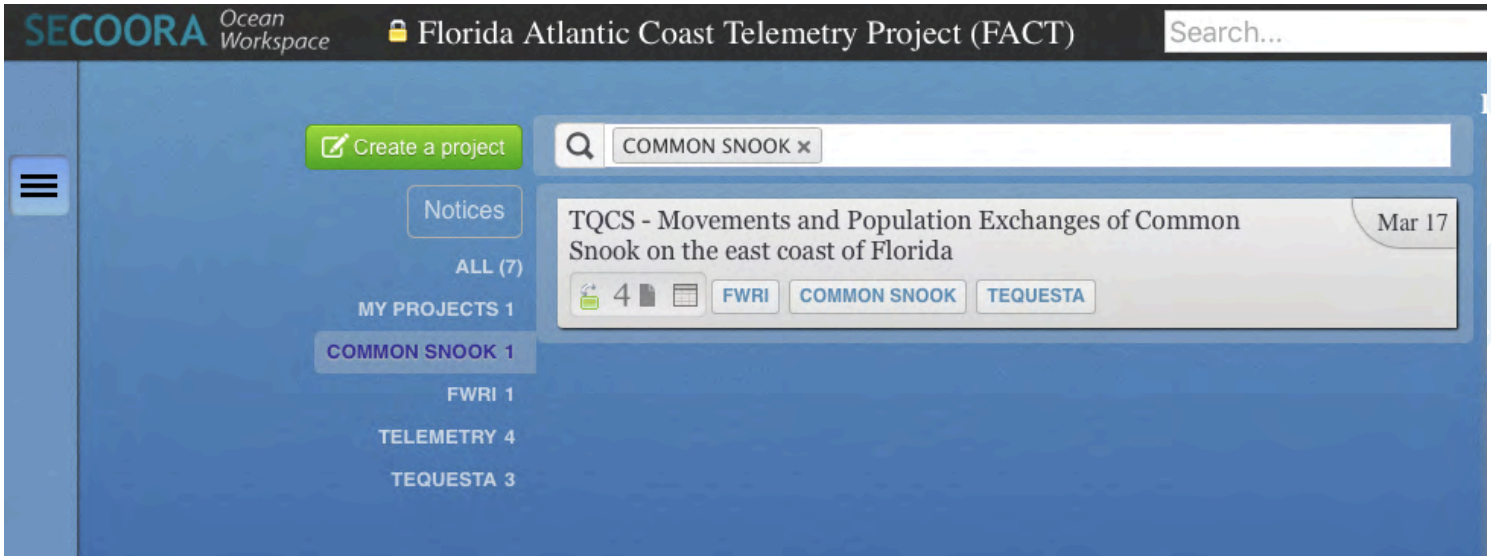
The FACT Node- standardize, ease of use, compatibility

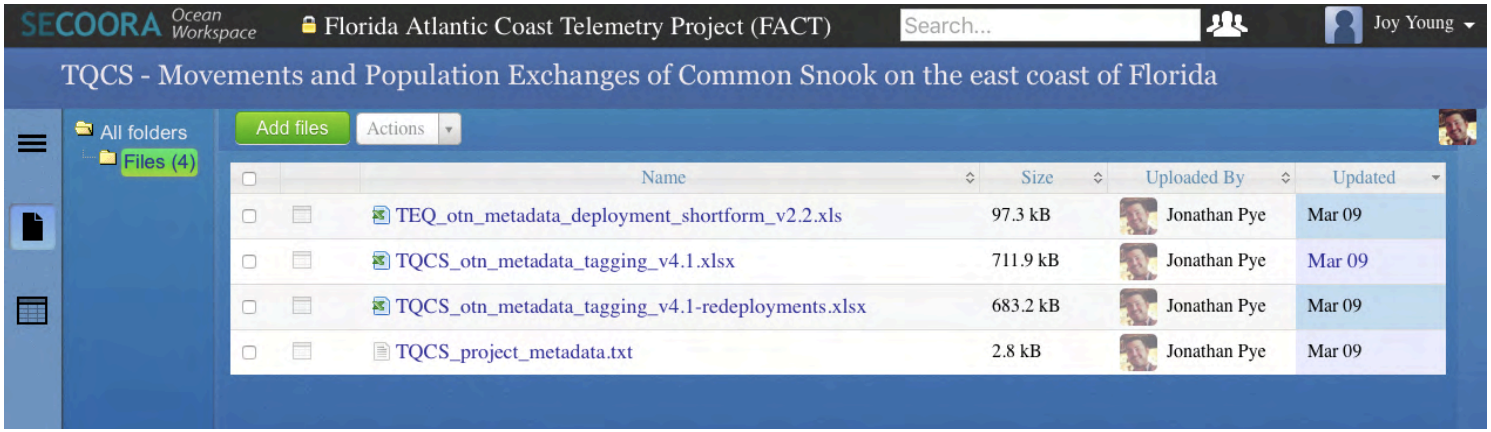


- SECOORA hosted node DB live for loading of FACT member data
- May also include USCAN member data
- Public endpoints for project and station* metadata
  - GeoServer http://fact.secoora.org:5004/geoserver
  - ERDDAP http://erddap.fact.secoora.org:5003/erddap/
- Public ERDDAP shows only public project data in AAT format
  - can be harvested by ATN DAC
- Compatible with MATOS, ATN DAC, OTN mother node
  - Data pushed pending necessary PI approval

FACT Fish Move.

The FACT Node- SECOORA-hosted Ocean Workspace for Document Management





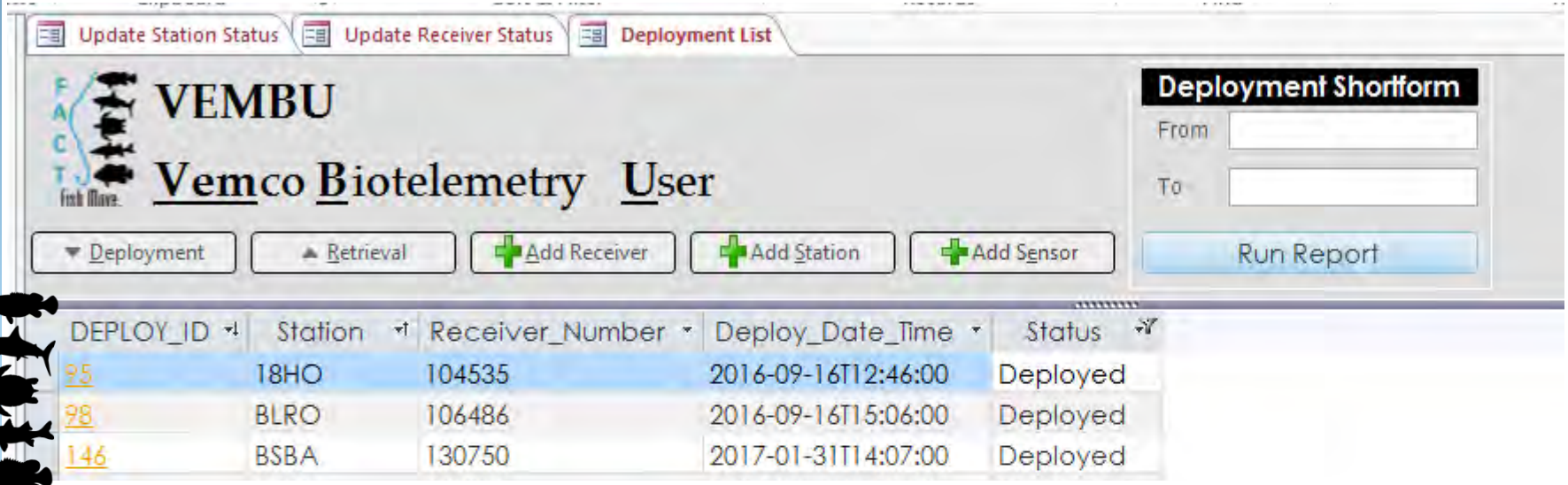
FACT Fish Move.

The VEMBU database- standardize data and ease data sharing

The VEMBU access database is designed to standardize and organize deployment-related data.

What it does:

- Organizes deployment and receiver information
- Standardizes data collection (e.g. bottom type at station)
- Uses built in QA/QC rules to minimize errors
- Stores the history of receiver and station maintenance
- Queries for current receiver and station information
- Output formatted for the FACT node (will also work for other OTN structured nodes)



FACT Fish Move.

The FACT Website- SECOORA-hosted website

- Allows the public and researchers to find FACT and SECOORA- growing the network
- Provide information (videos, general maps, project summaries) to the public
- Members only section
- Link node through the website

FACT Fish Move.

MOU between FACT members and SECOORA

A framework for working together for a common goal!

Website and node

FACT Fish Move.

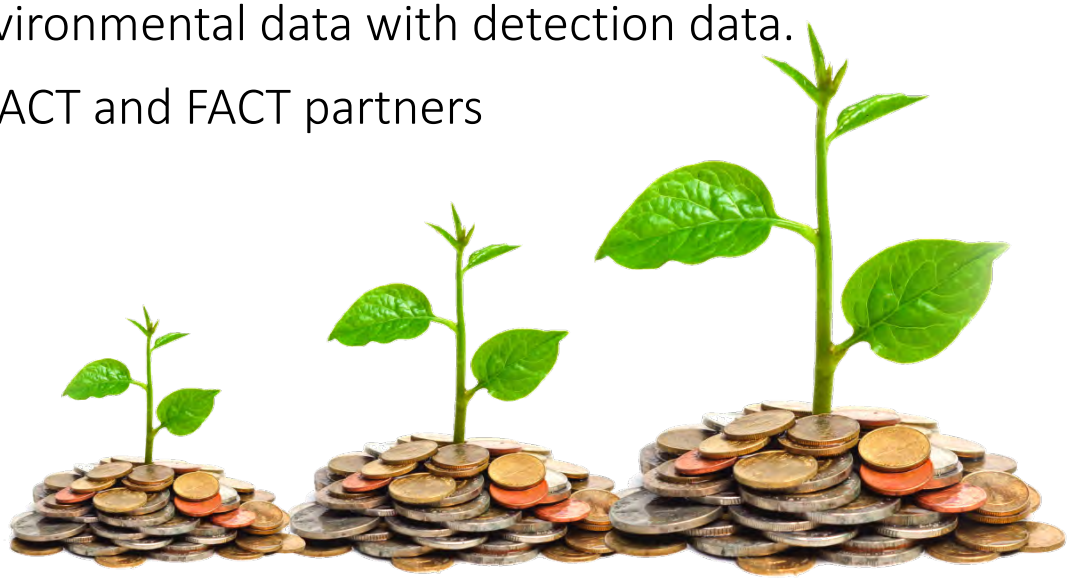
The Future of the FACT Network, in summary

Current:

- FACT node rolled out to memerbers in June 2017
- Website Development 2017
- Acceptance of MOU 2017

Future:

- Develop process to push data to the SECOORA portal.
- Investigate how to link environmental data with detection data.
- Funding and support for FACT and FACT partners
- Collaborate!
- Grow!!!!



FACT Fish Move.

A very special THANK YOU!!

Vembu Subramanian, SECOORA

Debra Hernandez, SECOORA

Kyle Wilcox, Axiom

Jon Pye, OTN

FACT Network members

State and Federal partners
Bureau of Ocean Energy Management (BOEM)
Naval Undersea Warfare Center (NUWC)
NOAA, Gray's Reef
USGS Gainesville and Miami
Florida Fish and Wildlife Conservation Commission (St. Pete, Marathon, Tequesta labs)
Georgia Department of Natural Resources (GADNR)
South Carolina Department of Natural resources (SCDNR)
Texas Parks and Wildlife (TWPD)

Universities
Clemson University
Carolina Coastal University (CCU)
Delaware State University (DSU)
Florida Atlantic University (FAU)
Florida Institute of Technology (FIT)
Florida International University (FIU)
Florida State University (FSU)
Rosential Marine School (RSMAS)
Savannah State University (SSU)
University of Georgia (UGA)
University of North Florida (UNF)
University of Florida/Florida Program for Shark Research
University of Puerto Rico (UPR)
Stony Brook University

Research Institutes
Cape Eleuthera Institute (CEI)
Smithsonian Environmental Research Center
Bimini Biological Field Station (BBFS)
Loxahatchee River District (LRD)
Mote Marine Lab - Summerland Key TRL
Riverhead Foundation
Shedd Aquarium
Georgia Aquarium
CSA Ocean Services, Inc.
East Coast Biologists
Kennedy Space Center Ecological Program

Networks
Southeast Coastal Ocean Observing Resources (SECOORA)
Ocean Tracking Network (OTN)
Atlantic Coast Telemetry network (ACT)
Integrated Tracking of Aquatic Animals in the Gulf of Mexico (iTAG)
US Caribbean Acoustic Network (USCAN)
Animal Telemetry Network (ATN)

FACT Fish Move.